COLLEGE OF ENGINEERING
Bio-Medical Engineering

SUMMER RESEARCH OPPORTUNITIES
FOR UNDERGRADUATE WOMEN

APPLICATION DEADLINE: MARCH 1, 2005

The Department of Bio-Medical Engineering is pleased to offer the following research project for the summer of 2005. Interested students are urged to contact the faculty member(s) directing the project that most interests them. By contacting the faculty member, you can discover more about the project, learn what your responsibilities will be and if possible, develop a timetable for the twelve-week research period.

Design and Analysis of New Biomolecular Biomaterials

Asst. Professor Joel Collier
Engineering: Bio-Medical Engineering ERC 862 (513)556-1172
FAX: (513)556-4162
E-Mail: collieje@ucmail.uc.edu

The Collier Lab, in the Department of Biomedical Engineering, conducts research in the field of Biomaterials. Drawing on a wide range of disciplines, including cell biology, molecular biology, synthetic chemistry, and polymer chemistry, this research seeks to design and build new synthetic materials that mimic natural tissues in ways previously not attainable. The long-term goal of the lab is to apply these new materials to solving problems in tissue engineering, drug delivery, and wound healing. One major technology focus is designing synthetic peptides that have the ability to self-assemble into desirable extracellular matrix-mimicking structures.

In the REWU program, students can contribute to this research in any number of ways, as determined by the student's specific interests. These could include analyzing the nanostructures of self-assembled biomaterials with electron microscopy, designing and synthesizing new self-assembling peptides, or evaluating the migration of cells through synthetic tissue-mimicking biomaterials with wound-healing assays.